



## **“Wireless” Traffic Control Solutions**

**APPLICATION:** *Speed Warning Beacons*

**LOCATION:** Highway 50 near Lee's Summit, MO, U.S.A.

### **Description**

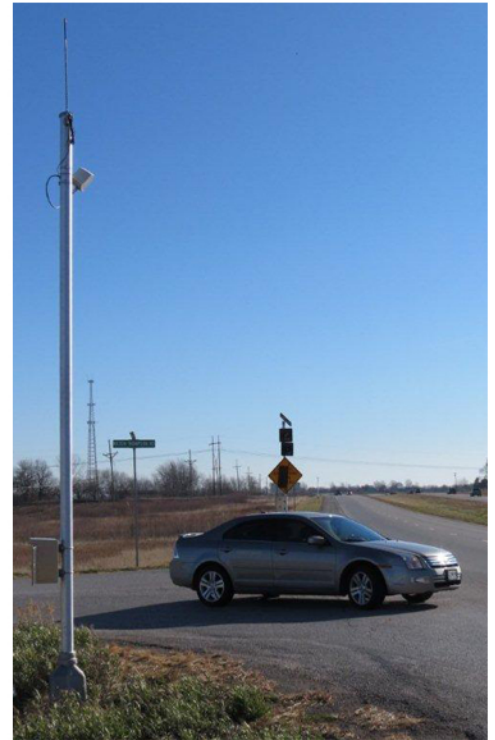
Missouri DOT (MODOT) is working to improve safety for motorists along Highway 50 near Lee's Summit, MO. The route consists of two lanes westbound, two eastbound with a large median between them (about 3-4 lanes wide).

Highway 50 has posted speed limits of 65mph just east of town; several side roads allow local traffic access. Previously, the intersections did not feature any signals but have now been outfitted with warning beacons. The beacons are placed so they warn traffic on the side roads of higher speed traffic approaching. Each side road access point has an advance detection station and a flashing beacon. Traffic Control Corporation and Solar Traffic Controls teamed up with a MODOT engineering team led by Dave MacDonald (RET) to create a solution for the project.

### **Using RTMS and STC Flashing Beacons**

Located in advance of each side road is an RTMS sensor which employs side-fired radar to detect vehicles passing the detection point. Once a detection occurs, the sensor station control logic locks it in as a call and radios a run time value to the flashing beacon control logic which starts the warning beacons flashing. There were four detector locations; three of the four did not have access to AC power.

The fourth location did have AC power but was about 600 feet away across an open field. The solar-powered detection points included a self-contained solar-powered system designed to power the equipment year round based on the solar data for the location, the equipment load and the projected duty cycle for all the equipment. A user interface allows the setting of the run time for each road's flashing beacon as the distances from detector to flashing beacon varied at each location. Each detection station also



continued on next page

included a self-test function to allow DOT personnel to test the equipment without the sensor present.

With the availability of AC at one detection point, STC designed an AC equivalent to the solar-powered detection stations. The two systems function similarly except for the incoming power source.

There is an associated flashing beacon for each detection station. Three of the four flashing beacons are solar-powered; the fourth is AC-powered from a nearby service point. All the solar-powered beacons use the STC 12-inch amber DC lamp which has an optical output greater than 990 Cd on center (ITE is 910) to ensure an adequate optical output. Both flashing beacon stations and the detector stations use a modified version of the STC Solar Ped-X control package which includes a 1W FHSS radio link.

Please note: This project was initiated to minimize the incidence of accidents from traffic entering the highway from side roads. An accident in the recent past led to a need to address the issue. By warning drivers on the side roads of the approaching high speed traffic via the flashers it is hoped fewer accidents will occur. For more information please contact Ken Kohl at the TCC St. Louis area office via the company's main website [www.trafficcontrolcorp.com](http://www.trafficcontrolcorp.com).

#### **Take these steps to insure the success of your solar-powered project:**

1. Location - identify the site of the application; for example, the nearest town, village or city and state.
2. Load - specify the number and size of lamps, timers or other controls (anything which draws power).
3. Duty Cycle - determine how many hours per day and which days per week the load will be drawing power.

**Go to "Send us your requirements" at [www.SolarTrafficControls.com/support/requirements.php](http://www.SolarTrafficControls.com/support/requirements.php) for more details.**

#### **Solar Power: a free source of energy**

STC's solar-powered systems are designed for quick and easy installation in the field. Our careful front-end engineering minimizes your installation costs and provides years of trouble-free operation. The standard solar power system includes the solar array, system enclosure with all the necessary electronics, color-coded wiring harnesses, sealed batteries and full documentation. DC LED lamp kits can also be purchased. These include the LED beacon, lamp housing and mounting hardware.

#### **STC Systems are Cost Effective**

Our solar flasher systems allow you to stretch your budget to obtain the traffic safety devices you need at affordable prices. Most systems are equivalent to the cost of obtaining an AC power drop. Battery life is typically three to six years; less expensive than grid electricity for the same period of time.

Solar Traffic Controls (STC) provides solar-powered traffic control systems for city, state and federal DOTs; police, firefighting and public works departments; facility maintenance and plant safety industries. Our primary products are solar-powered flashing beacon systems used for school zones and 24-hour applications. We also supply specialized flasher systems using environmental sensors and custom communications packages to control the flashing beacon systems. Our product spectrum also includes wireless power systems for ITS, EMS and HAR. STC's products and services are sold through a network of regional distributors who offer technical support for your project.

**For more information:** Solar Traffic Controls, LLC • 1930 East Third Street, Suite 21 • Tempe, AZ 85281-2929 USA  
Tel: 480.449.0222 • Fax: 480.449.9367 • [info@solar-traffic-controls.com](mailto:info@solar-traffic-controls.com) • [www.solar-traffic-controls.com](http://www.solar-traffic-controls.com)